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ABSTRACT

The overall design is elaborated for a proposed research program which would examine the antecedents, concomitants, and consequences of successful integration of Black, Mexican-American, and white children in the elementary grades of the Riverside, California public school system. Essentially, the proposed research is a 7-year longitudinal study involving some 1800 children, of whom approximately half are minority group members and half are white. The basic research strategy proposed is extensive multiple measures of al variables: (1) achievement, personality, and adjustment of the child; (2) parental values and attitudes; and (3) school and teacher characteristics. More specifically, the study would provide basic information on the antecedent child, and school characteristics which promote achievement and adjustment following termination of "de facto" segregation. The impact of desegregation on the children will also be assessed for the extent to which its effects feed back through the child to alter family attitudes, values, interaction patterns, and community participation. (Author/TL)

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FACTORS CONTRIBUTING TO ADJUSTMENT AND ACHIEVEMENT IN RACIALLY DESEGREGATED PUBLIC SCHOOLS

A
JOINT PROJECT

Riverside Unified School District
and
University of California, Riverside

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June 1, 1967 – May 31, 1972

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Title : Factors contributing to adjustment and achievement in racially desegregated public schools

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II. ABSTRACT

Title of Project: Factors contributing to adjustment and achievement in racially desegregated public schools

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Federal Funds Requested:

Beginning and Ending Dates: June 1, 1967 -- May 31, 1972

This research program examines the antecedents, concomitants, and consequences of successful integration of Negro, Mexican-American, and white children in the elementary grades of the public school system. It assesses both long term and short term effects of desegregation. The major indices of success are academic achievement and emotional adjustment. The study focuses on three antecedents or concomitant factors which may affect these dependent measures: characteristics of the child, his parents, and the school.

Essentially, the proposed research is a longitudinal study involving nearly 1800 children. Approximately half are minority group members and half white. The two halves are matched for grade. The design is basically a seven year natural time series experiment consisting of a premeasurement and six successive postmeasurements. Selected matched control groups will provide baselines for evaluating the effects of community sensitization, repeated testing of the sample, and general social-cultural changes occurring over the time span of the study. The basic research strategy is extensive multiple measures of all variables: achievement, personality, and adjustment of the child, parental values and attitudes, and school and teacher characteristics. Other sources of support have financed the major portion of the premeasurement phase of the study. This proposal requests funds to complete the premeasurement phase, to administer postmeasures over the next six years, to measure control groups, and to analyze the data.

This study will provide basic information on the antecedent child, parent, and school characteristics that promote achievement and adjustment following termination of de facto segregation. The impact of desegregation on both the majority and minority child will be evaluated. Likewise, the extent to which these effects feed back through the child to alter family attitudes, values, interaction patterns, and community participation will also be assessed. An important, though incidental outcome will be an accumulation of a wealth of child development data.

III. FACTORS CONTRIBUTING TO ADJUSTMENT AND ACHIEVEMENT IN RACIALLY DESEGREGATED PUBLIC SCHOOLS

A. OBJECTIVES

1. Problem

The major goal of the proposed research program is to determine the antecedents and concomitants of successful integration of Negro, Mexican-American and white children in a public school system. This task must, of course, be broken down into more specific questions. These can be organized under two major categories of dependent variables that define successful integration: academic achievement and emotional adjustment. The antecedents and/or concomitants of these indices of success stem from three sources: the child, the parents, and the school. This research program focuses on the variables from each of these three arenas which importantly contribute to the success of the Negro, Mexican-American and white child after desegregation is implemented. The general procedure consists of a series of sequential measurements beginning with premeasurements obtained prior to the implementation of desegregation. The premeasurements, taken between March and September of 1966, were financed by grants from the Rockefeller Foundation, the Regents of the University of California, and the California State Department of Education. These funds, which total to $222,454, will be exhausted by August 31, 1966. This proposal requests support to continue the research into the second phase which will consist of successive postmeasurements for six consecutive years, and measurements on selected control groups.

This research will primarily be conducted in the Riverside Unified School District on students who were in kindergarten through the sixth grade during the school year 1965-66. In conjunction with the decision to integrate, the school administration is thoroughly committed to evaluation and has assured complete cooperation. They will provide test scores and all other data they already have on the children and in addition, provide some personnel for the project. Members of the school administration participated extensively in the planning stages of the research. The chief school psychologist has received released time to work on the study and currently receives one-third of her salary from project funds. In every sense, the study is a joint venture between the University and the school district.

The integration of public schools is probably the most important social innovation of both the past decade and the present. The moral issue of the Negroes' and Mexican-Americans' inferior social position within the culture will only be resolved with the support of changes in cultural institutions. The work scene and the education scene, in contrast to residential patterns, are the institutional settings where changes are now occurring and are most likely to occur in the future. As communities end <u>de jure</u> and <u>de facto</u> segregation, the need for information becomes increasingly vital. We need to know what factors contribute to successful integration and what short term and long term effects should be expected as a consequence of desegregation. Though 43% of biracial southern school districts had begun token desegregation by the fall of 1964, thereby placing one out of every nine Negro southern school children in schools with white southerners

(Southern School News, 1964), there is a notable paucity of research on the factors which contribute to the success of the enterprise. In his recent review of research on school desegregation, Weinberg (1965) concurs in this need for research on both the underlying dynamics that occur as a consequence of desegregation, and the antecedent characteristics of the child, parent, and school which pattern the outcome.

The city of Riverside seems to be a particularly apt choice for a research site on school integration. For one thing, it is de facto, not de jure, segregation which is being terminated. As Pettigrew (1965) points out, while de jure segregation decreases, the problem of de facto segregation is ironically increasing at a rapid rate and will eventually become a problem in the nominally "desegregated" cities of the south. In this respect, it is important to note that terminating de facto segregation may pose some special problems: e.g., bussing children, reducing the role of the school as a socio-cultural focal point in the immediately contiguous community, (the so-called neighborhood school), choice of ratio of minority and white children in classrooms, etc. Secondly, being a city of 125,000, Riverside has much commonality with numerous other cities. As perhaps one index of its typicality, it was chosen as the All-American City in 1955. Thirdly, by fortunate coincidence, Riverside is one of ten communities in which the decisional process and impact of desegregation will be studied from another stance. This other project is currently supported by Office of Education funds and directed by Raymond Mack of Northwestern University.[1] It utilizes a case study and selective interview approach to augment a sociologist's insights into the Riverside situation, and thereby stands in contrast to the large scale empirical data collection we propose. The two types of study of the same community should nicely complement one another.

The most important of the reasons why Riverside presents a unique opportunity, however, is that there was time to make the essential premeasurements before desegregation was implemented. These premeasures are currently being made by a trained field staff of seventy interviewer-testers. The local importance of the proposed research has already been highlighted by the numerous requests for information received by the school administration and the research staff from other California communities in spite of the fact that desegregation itself has not yet been implemented.

2. Related Research

The research program envisaged is perhaps distressingly broad in approach. From each of the three sources of factors seen as contributing to successful integration (parent, child, and school), there is a wealth of variables to be studied, each with its own background of relevant literature. For this reason, it would seem to make more sense to cite literature in connection with specific problems and procedures as they are presented in subsequent sections rather than try to first review "the literature" in a separate section. Since a review is specifically prescribed by the Office of Education Application Instructions, however, some basic sources will be indicated in this section.

One of the most thorough reviews of research on school desegregation has

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1 According to Professor Mack, Robert York is the person at the U. S. Office of Education who is most directly familiar with this project.

been prepared by Weinberg (1965). Katz' (1964) fine article on the effects of desegregation on Negro performance, wherein he considers factors affecting both emotional as well as intellectual responses, is also an excellent general reference. In addition, however, there are some specific research areas which, though not directly concerned with the effects of desegregation, nevertheless provide what may prove to be fruitful leads. We will now briefly examine some of these areas and in a very general way discuss certain methodological issues.

A fundamental notion behind the impetus to end segregation is the hope that Negro and Mexican-American children who currently show little interest and poor performance in academic settings will internalize those values and attitudes that characterize the striving white child.[2] Those advocating integration hope to promote internalization of middle class values through sheer contact and exposure. It seems important, however, to consider the factors that might lead the minority child to respond positively to the new school setting. Home and personality characteristics seem particularly crucial. Performance is more likely to blossom when parental values previously seed the child's personality with kernels of achievement. The vast literature on the familial antecedents of achievement motivation by McClelland and his co-workers (1961); McClelland, Atkinson, Clark, and Lowell (1953), is extremely relevant. So, too, is work by Bronfenbrenner (1961) on the antecedents of leadership and responsibility in the school, and also the work by Sears and his co-workers (Sears, 1960; Sears, Maccoby, and Levin, 1957) and Aronfreed (1961) on the socialization antecedents of the middle class value structure. Clearly, however, it is the germ of achievement motivation in the child that is more directly relevant to performance than the mere presence or absence of the parental behaviors which are typically thought to induce it. Achievement motivation must therefore be examined directly as a personality trait of the child.

There are a number of other traits which should also predict a differential response to integration. In contrast to achievement motivation, however, there are some traits for which little is known about the parental behaviors which produce them. To this extent, they too must of course be studied directly in the child. Some additional traits which are adjudged important, along with references presenting some of the relevant research are: anxiety, (Katz, 1964 ; Sarason, 1960), closemindedness (Rokeach, 1960), need for social approval (Crowne and Marlowe, 1960; Marlowe and Crowne, 1961; Miller, Doob, Butler and Marlowe, 1965), tolerance for delay of gratification (Mischel, 1958; Mischel, 1961a; Mischel, 1961b; Mischel, 1961c), and aggression (Berkowitz, 1962; Buss, 1961). The Handbook of Research Methods in Child Development (Mussen, 1960) which is useful as a general reference for measurement techniques appropriate for each age level, suggests that some of these traits (e.g., closemindedness, need for social approval) cannot be measured with the standard techniques used on adults. Thus other techniques more appropriate for children must be employed.

Certain methodological problems stem from the necessity of relying on a correlational design. Discussions of problems in making causal inferences from correlational research are found in the work of Campbell (1961a) and Campbell (in press); Campbell and Stanley, (1963), and Blalock (1964).

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2 These motivational differences no doubt, reflect a social class problem which is a racial problem only to the extent of the high correlation between race and class.

3. Hypotheses

Within the three broad sectors of inquiry already suggested (child, parent, and school) a somewhat shotgun approach must frankly be acknowledged. This is dictated by the lack of substantial research specifically concerned with evaluating the effects of school integration on academic performance, the very restricted opportunity for experimental manipulation of variables, and the vast array of variables which appear to be relevant. Though some hypotheses have been hinted at in the preceding section, they will be listed below in more detail. In many instances too little is known to permit any guess at direction of effect; instead, one can only surmise that a variable will be relevant though its effect awaits discovery.

In general, all factors interfering with or reducing emotional adjustment should also have debilitating effects on academic performance. It has been shown, for example, that anxiety, which can be viewed as one index of adjustment, partially mediates performance on intellectual tasks (Katz, 1964; Spence, 1963). It will be important to discover if there are some dimensions of emotional response (or adjustment) which in fact do not affect academic performance. For the present, however, we assume that the two are related in this way. Therefore, hypotheses regarding social-emotional factors will not be restated in parallel form for academic performance.

Immediate Effects on Children

Minority Children. Speaking in a general sense, desegregation will be disruptive and threatening to minority group members. Some social-friendship ties are likely to be destroyed. The possibility that new friends and patterns of interaction may have to be established will tend to arouse anxiety. Objectively, the minority members will be embedded in a more competitive environment in that at present there are true performance differences in the direction of Negro and Mexican-American inferiority. Furthermore, these differences, which are typically exaggerated in stereotypes, are often internalized by the minority member even though such internalization is self-denigrating (Merton, 1957; Lewin, 1948; Clark and Clark, 1958). Radke, Sutherland and Rosenberg (1950) note evidence of self-rejection by Negro children in an integrated school containing approximately 15% Negroes. Bettelheim and Janowitz (1964) concur in this expectation of stress and explicitly suggest that self-rejection may be increased by transferring Negro children from one school to another in an attempt to achieve racial balance. Experimental evidence indicates that a low self ability estimate will lead to derogation of one's own behavior (Gerard, Blevans, & Malcom, 1964).

1. Integration will have a more debilitating effect on those minority members who are (a) high in anxiety; (b) low in self-esteem; (c) low in intelligence; (d) low in achievement motivation; (e) low in socio-economic class.
2. It is difficult to anticipate the effect of integration on minority students at the opposite end of the distribution on the above variables. Initially, integration may well have a disruptive effect on them, too, but their recovery may occur more rapidly. On the other hand, there may be no disruptive effects but instead, increased feelings of self-worth, happiness, and acceptance.
3. All of the above effects should interact with age. In other words, they should be more pronounced in older children since the discrepancy in performance between minority and white children increases with age.

4. In general, girls are more compliant (Campbell, 1961b) and therefore more likely to be rewarded in the school setting. Therefore, all of the above effects should also interact with sex. Being less conforming, and therefore receiving less reinforcement from teachers in the new setting, males should find integration more disruptive.

5. The same argument underlies the prediction that those lower in need for social reinforcement or approval (Crowne and Marlowe, 1964) should find the new setting more disturbing. Those high in this need orient toward the external situation for cues to guide their behavior; they adapt to situational demands, (Miller, Doob, Butler, & Marlowe, 1965). They are inclined to seek reinforcement (and indeed obtain it) by providing cues and reinforcements for others. In contrast, those low in this trait should be less adjustive and as a consequence receive less reinforcement. This, in turn, should make the entire school scene more negative to them.

6. There may be a number of children whose depressed academic performance simply manifests compliance to the dominant peer group value structure in the lower class school. Coleman (1962) has documented the pervasive and debilitating effects of peer group conformity. Vulnerability to peer pressures may therefore qualify predictions of adjustment and achievement. The direction of the relation should depend upon which particular peer group a child joins. If, for example, the child is sociometrically embedded in a well defined subgroup of minority children within the new classroom situation and is particularly vulnerable to peer pressure, we might expect little or no beneficial effects on achievement attitudes. If, on the other hand, the minority child is integrated within a middle-class white subgroup, we might expect a stronger orientation toward achievement. Gerard (1961, 1965) has identified attitudinal and physiological correlates of conformity to and deviation from peer group pressure. The anxiety induced by the new situation may result in greater dependency upon the peer group (Schachter, 1959; Gerard and Rabbie, 1961; Gerard, 1963).

7. As indicated, the new classroom situation is likely to be disruptive, at least initially. Furthermore, the disruption will in part consist of a considerable degree of conflict between established values and behavior patterns and new middle-class ones. The child's ability to confront and deal directly with this conflict may predict the success of integration. To the extent that the minority child possesses a good deal of inner-directed self-reliance he may weather this disruption more comfortably.

8. It is expected that there will be substantial variability in outcome not only between schools within the system, but also, between classrooms within a single school as well. For those who are optimistic about the success of integration, this expectation will hopefully turn out to be true, in that there is a kind of millennialism hidden in the extent to which the child's personality or the values and behavior of the parents control the variance in outcome. Some of the important school features may be (a) attitude of the teacher toward minority members, (b) permissiveness of the teacher, (c) the permeability of the friendship structure in the receiving classroom, (d) the proportion of minority and majority members, (e) the extent to which there is homogeneous ability grouping, (f) the social class of the white children in the school or classroom, and (g) age-grade level.

White Children. It is more difficult to anticipate the effects of integration on the emotional adjustment of white children. Some tentative notions are presented below.

1. For those who are anxious, low in self-esteem, "underachievers," or social isolates, the addition of children believed to perform poorly (minority members) should reduce anxiety by apparently providing a new lower anchor (Bieri, Atkins, Briar, Leaman, Miller, and Tripodi, 1966; Katz, 1964).

2. Such effects would be more pronounced among older white children. For them, the stereotype of the poorer performing Negro student is more firmly internalized. Likewise their own anxiety and self-doubts are likely to be more vivid to themselves or stronger, even if well-defended against (Cattell, 1965).

Delayed Effects on Children

1. As indicated in a previous section, one major argument for integration, and one that is often advanced most strongly by minority members themselves, is that exposure and interaction with middle class white students will enable minority students to assimilate the achievement motivation and value structure that is characteristically absent among lower class groups. Such changes, if they do occur, would take time and could only be expected to appear after several years of interaction in the new environment.

2. Controlling length of time in an integrated school, such effects are more likely to occur in children who are youngest at the initiation of integration. Knobloch and Pasamanick (1958, 1960) report that differences between Negro and white children, though undetectable at 40 weeks, begin to be dramatic by age three. These data suggest that remedial attempts should be initiated even prior to normal kindergarten age. There are some suggestions, however, that age eight is crucial for the development of achievement motivation (McClelland, 1961). In conjunction with these findings, it has been noted that the difference between Negro and white school performance seems to appear most markedly in the third grade where children are approximately eight years old (Kennedy, 1963). Thus, favorable prospects for young school children may indeed be more forseeable.

3. If changes in achievement motivation are indeed detected, we should also find changes in tolerance for delayed reward. Mischel (1958, 1961a, 1961b, 1961c), cites tolerance for delayed gratification as one of the important features distinguishing middle class value structure from lower class. Perhaps a more important consideration from our own view is that it can be readily measured in very young children whereas there is some question concerning the reliability and validity of achievement motivation measures that have been developed for the very young school child (Bronfenbrenner and Ricciuti, 1960).

4. Another related variable is level of aspiration. Those high in achievement motivation tend to set moderate aspiration levels whereas those with low achievement set either inordinately stringent standards which they cannot hope to meet, or on the other hand, extremely lax standards. A moderate level of aspiration is more likely to be associated with classroom success (Atkinson, 1964; Feather, 1961).

5. If new values are to be assimilated, there are several obviously relevant school factors. These have been mentioned in the preceding section as determinants of immediate stress induced by the new setting, but these same factors can be expected to bear on long term outcomes as well.

6. Family factors might pinpoint the children in whom high achievement needs are most likely to develop: those with upwardly mobile parents, who are high in need achievement themselves, who clearly display interest and concern with the child's activities and progress in school. In accounting for the minority child's response to the new school environment, it may be particularly

important to ascertain some of the details of family interaction patterns. McClelland (1961), Bronfenbrenner (1961), Winterbottom, (1958), Rosen and D'Andrade (1959) and others have depicted to some extent the type of family interaction pattern associated with high achievement in children. In the light of some of this literature, it would seem that the more dominant position of the Negro mother in conjunction with her typically warm and affective role should be conducive to the development of high achievement motivation. Yet, curiously, such needs do not develop in their offspring.

7. Related to this problem is the possibility that acceptance into the white community, even if the gesture is more of a token than a reality, may nevertheless modify the child rearing behavior of the minority parent. Such effects would be difficult to extricate from the effects of history per se. If they do occur, attention to the community structure suggests that it is less likely in the Mexican-American minority group.

8. The second important arena for long term effects is attitude toward outgroup members. Clearly, a major impetus for integration is the hope for a reduction of ethnocentric hostility. An overwhelming array of data suggests that desegregation will indeed create more favorable attitudes, though Weinberg (1965) does report an occasional instance where it had the opposite effect. Desegregation provides the basis for interaction between minority and majority group members. The proposition that interaction results in friendship is one of the central propositions in Homan's (1961) theory of group behavior. More specifically, the army studies (Star, Williams, and Stouffer, 1958) showed more favorable attitudes toward Negroes after integration even among those initially opposed; among white merchant marines, the number of voyages with Negro seamen was directly related to favorable attitudes toward Negroes (Brophy, 1945); studies of integrated housing show increased favorability of attitude even in those living in separate but adjacent housing units as well as those in the truly integrated units (Deutsch and Collins, 1958); likewise, studies of racially integrated summer camps show more favorable attitudes (along with increased emotionality) as resulting from a brief eight weeks of interaction (Yarrow, Campbell, and Yarrow, 1958). While there are undoubtedly personality variables associated with individual differences in prejudice, recent research (e.g. Pettigrew, 1961; Rokeach, 1960; Rokeach & Mezei, 1966) suggests that personality variables are less important than they were thought to be a few decades ago (Adorno, Frenkel-Brunswik, Levinson and Sanford, 1950). It is now thought that in many instances prejudicial attitudes are merely a correlate of the factual, institutionalized separation of races--a conformity to the objectively observable distinction in the social system between races and a conformity to existing community norms (Pettigrew, 1961). The recent work of Rokeach & Mezei, 1966; and Stein, Hardyck, and Smith (1965), suggests that similarity or dissimilarity in belief system (rather than race) is a more potent contributor to attitude. Sherif's (1961) field studies with well-adjusted eleven-year-olds suggests that when joint interaction between groups with initially negative attitudes toward each other is initiated against some external threat, the formerly negative attitudes become more favorable. This suggests for instance, that athletic competition between teams comprised of different racial groups will disrupt the typical coordination of attitude and racial membership. The goal for those intent on remedial restructuring of social attitudes should not be to eliminate expression of hostility but rather, to devise ways of eliminating its coordination with racial boundaries. The extent to which individual schools succeed in eliminating this correlation should predict changes in

attitude and exaggerated stereotype. Some of the important school factors include individual differences in teacher attitudes, the extent to which there is homogeneous grouping within the classroom according to ability, the extent to which the social class membership of the several racial groups is homogeneous within race and variable between races, the permeability of existing clique structures prior to integration, and the ratio of minority to majority members. Of course, parent attitudes and numerous other family factors will nevertheless importantly determine the intractibility of negative attitudes toward outgroup members.

Effects on Parents

While the study primarily focuses on the impact of desegregation upon the child, parents too may change. This may be more true for the minority parents, particularly the Mexican-Americans who have remained isolated and actively resist assimilation into the mainstream culture. On the other hand, at this point in history, the Negro actively seeks avenues toward upward social mobility. From this standpoint, introjection of middle class values, orientations, and aspirations may have greater impact on the Negro adult than the Mexican-American adult. For white parents, the consequence of increased interaction between their own children and minority children merits study. Hopefully, attitudes of greater tolerance and understanding for customs, beliefs, and ways different from one's own will develop in the children and perhaps to some smaller extent be transmitted to their parents as well. If any of these changes in parents do indeed occur, they would certainly be delayed effectswhich would only appear several years after the implementation of desegregation.

While specific effects are difficult to foresee, it seems appropriate to look at such family factors as degree of assimilation of middle class values, degree of structural integration into the community, attitudes toward desegregation and minority groups, patterning of authority within the family, and attitudes toward child rearing.

Summary

Dependent Variables. The post-desegregation characteristics of the child which will be studied as dependent variables are academic achievement, intellectual ability, peer group interaction, attitude toward the outgroup, feelings about the self, emotional adjustment, achievement motivation, and level of aspiration. Parental values, attitudes, aspirations, interaction patterns, and involvement in community activity will also be studied as dependent variables.

Independent Variables. In addition to the desegregation experience itself, five other types of independent variables will be explored.

1. Pre-desegregation characteristics of the child: It is hypothesized that children will respond differentially to desegregation and that significant predictive variables will be age, sex, and pre-desegregation academic achievement, intelligence, level of anxiety emotional adjustment, and personality characteristics.
2. Characteristics of the home: It is hypothesized that the child's responses to desegregation will be mediated by the socio-economic status and style of life in his home, the cultural and structural characteristics of his

family, the attitudes of his parents toward desegregation and toward the out-group, the values and aspirations of his parents for him, and the child rearing patterns practiced by the family.

3. Characteristics of the peer group interaction: It is hypothesized that the level and nature of a child's relations with his peer groups before desegregation and the extent to which he is influenced by peer group norms will be related to his post-desegregation behavior.

4. Characteristics of the school environment: The post-desegregation school environment will be evaluated as an independent variable influencing a child's response to desegregation. The study will focus on certain personality characteristics of teachers and on such structural variables as the size, ethnic composition, and socio-cultural characteristics of the student body.

5. Impact of the "barrio" environment: The impact of the "barrio" as an independent variable influencing response to desegregation will be studied by examining the differential response of two types of Mexican-American children to the desegregation experience. One group, living in the "barrio," is isolated from the larger community and has intensely resisted assimilation. The other group is somewhat more integrated into the larger community and is less clearly lower class. The next section presents a more thorough description of the differences between these two Mexican-American groups.

B. PROCEDURE

1. Background

The background and natural events of the Riverside situation dictate the research design. Historically, the Riverside School District favored the development of the neighborhood elementary school. Because of a high degree of residential segregation in the community, this policy fostered the development of three de facto segregated schools consisting entirely of Negro and Mexican-American children.

These three schools represent quite different situations. Irving and Lowell schools are on the East Side of town within a few blocks of each other. They are located in the "zone of transition", the area of deterioration which tends to develop just outside the central loop zone of a city. The population of the community served by Irving consists of 49.6% Negroes and 50.4% Mexican-Americans, while that served by Lowell consists of 61.5% Negroes and 34% Mexican-Americans. Negro families are mainly migrants since World War II, as shown by the fact that 60% of the Negro heads of household were born in the South. The Mexican-Americans in these communities are the more upwardly mobile and more assimilated members of that population. They contrast vividly with those in Casa Blanca, the third segregated community.

Casa Blanca is a Mexican-American community in a southern section of town several miles from the downtown shopping center. Its history extends over several generations beginning with a settlement of migrant workers and their families near a citrus packing plant. A tradition of separatism and insulation from the white community emphasizes the preservation of the Mexican culture and the Spanish language. Over 50% of the families speak Spanish at home. The community is best characterized as a "barrio" whose central institution has been the Casa Blanca school. Under the benevolent "patroonship" of the school principal who served as community mediator in all conflicts with the larger community and as father and protector to those in need, the community has maintained its identity. In recent years a few Negro families have moved to the fringes of the Casa Blanca community because housing was inexpensive and available, but many of these families have elected to send their children to schools other than Casa Blanca. Currently the school population is overwhelmingly Mexican-American. The median education of adults over 25 in the "barrio" is 7.7 years and the area has the lowest average incomes of any section in the city.

Three years ago, the Riverside School District implemented a program of compensatory education for the three minority schools. This program, however, was rejected by a group from the East Side. These parents were mainly Negroes. They felt that compensatory education was too slow and would not solve the problems of their children as effectively as total and immediate desegregation. They petitioned the school board for total desegregation and threatened to boycott the public schools at the opening of school in September, 1965, if their demands were not met. On October 25, 1965, the School Board of the District made a historic decision to phase out two minority group schools and gerrymander the district of the third minority school. This decision was the culmination of the five years of agitation by the Negro community and the work by the School Board to determine if integration was feasible. (The Mexican-Americans typically remained relatively silent about the segregation issue.)

A successful arson attempt on one of the minority schools precipitated the decision to desegregate. Faced with the problem of not having classrooms for the kindergarten through third grade pupils in that school, the School Board made an interim decision to bus these children out of that area into neighboring "all-white" schools. At an open meeting in September, 1965, the Board committed itself to develop a plan for complete integration. This decision was a consequence of a very articulate group of younger minority parents and the happenstance of a liberal Board. In the face of some vigorous protest from a sizeable segment of the white community they decided to desegregate the schools. A honeymoon atmosphere now surrounds the relationship between the School Board and the Negro and Mexican-American communities. Both the School Board and the school administration are thoroughly and publicly committed to evaluating the effects of the program.

Characteristically, the Mexican-American parents in the Casa Blanca district were not active in the boycott nor were they favorable to the idea of desegregation. In April, 1966, the school board decided to only desegregate approximately half the Casa Blanca students. While this complicates the sample, it provides about 200 students who will continue in segregated schools for an undetermined number of additional years and makes other types of analysis possible which were not envisaged in the original design. Because of the community resistance to assimilation, children from the Casa Blanca "barrio" represent a special case of children who come from homes which do not seek entry into the white society but instead wish to preserve their identity as a sub-culture. This is not a rare case in the Southwest. Furthermore, ethnic groups with similar resistance to cultural assimilation exist in numerous major cities. It can be anticipated that the response of these Casa Blanca children and their families to desegregation will differ significantly from that of the Negroes and Mexican-Americans on the East Side.

2. Sample

The basic research design is a longitudinal study of those children in kindergarten through sixth grade during the school year 1965-6, who will experience desegregation in September, 1966. It is a "natural time series experiment" of the "before and after" type, with multiple "after" measures extending over time. "Before" measures will be taken on children, families, and teachers, during the spring and summer of 1966 and "after" measures will be taken in the spring and summer of 1967 and at regular intervals thereafter. Hopefully, the study can be extended eventually to follow the entire sample through the public school system and into adult life, although such long-term plans seem out of place at the present time.

The proposed study examines the short and long term effects of desegregation on five groups of kindergarten through sixth grade children:

1&2. Negro and Mexican-American children from de facto segregated schools attending predominantly white schools for the first time. (617 children).

3. Mexican-American children from a "barrio" community (Casa Blanca) attending predominantly white schools for the first time. (355 children).

4. White children in the receiving schools associating with relatively large numbers of Negro and Mexican-American children for the first time. (698 children).

5. Negro and Mexican-American children who have been attending predominantly white schools and now attend the receiving schools. They will experience the impact of having larger number of other Negro and Mexican children in

the school with them for the first time (55 children).

Table 1 presents the sampling frame and contains the numbers of children expected to fall into each category. The basic analytic groups are as described above. As can be seen from Table 1, 360 minority children from Lowell and Irving, and 355 minority children from Casa Blanca will be desegregated for the first time in September, 1966. These are titled the "sending schools" in the table. In addition, 257 minority children from Lowell and Irving who were desegregated in September, 1965, will have already experienced one year of desegregation at the onset of the study. They will have to be analyzed on this basis.

According to the present vacancy pattern, eleven schools will receive the children being reassigned from Lowell and Irving schools. On the basis of known vacancies in classes, the school district staff projected the number of minority group children who will be assigned to each grade in each receiving school. The sample design called for selecting, at random, a number of white children from each grade in each receiving school equal to the number of minority children assigned to that grade in that school. Consequently, 698 white children matched for grade and school with the minority group children have been selected for study.

In addition, 55 minority group children from two of the receiving schools, Adams and Jackson, have been selected for the study of the impact of desegregation on minority group children already attending predominantly white schools.

Table 2 gives a breakdown of the sample by ethnic group. Of the 1736 children involved, 41% are white, 36% Mexican and 23% Negro The table also gives a parallel breakdown for the 1233 families involved

3. Design

Table 3 schematically presents the basic design for the study of the child. The present Lowell and Irving kindergarten children (S_0 in the table), who were desegregated in September, 1965, represent the group of children who will have always been desegregated and thus become the criterion group exemplifying total desegregation. Children from Casa Blanca kindergarten were not desegregated in 1965 and provide a group of children segregated for one year and desegregated for six. They are indicated as S_1.

The present Lowell and Irving kindergarten students (S_0) are followed through first, second, third, etc. grades. Their performance will be compared with the performance of other groups when they were at that particular grade level and it will be possible to examine differences presumably related to their not having experienced segregation. For example, in 1967, the 1967 performance of the present kindergarten classes (S_0) can be compared with the 1966 performance of what is now the present first grade (S_2) to see what increment or decrement in performance the kindergarten children have experienced as a result of their differential experience with segregation.

At the other end of the structure, the present sixth grade (segregated seven years, S_7) will never experience desegregation in elementary school and their performance on measurements given in 1966 will serve as the baseline for comparison

TABLE 1

SAMPLING FRAME
RIVERSIDE DESEGREGATION STUDY

Minorities from Sending Schools	Grade (Spring, 1966) K	1	2	3	4	5	6	Sub-Total	Total
Lowell and Irving (Desegregation, 1965)	99	61	49	43	4	1	0	257	
Lowell (Desegregation, 1966)	0	0	0	0	47	30	28	104	
Irving	0	89	38	45	26	43	15	256	
Casa Blanca	68	63	63	48	40	42	31	355	
Sending Minority Total									972
White in Receiving Schools									
Adams	11	18	11	13	12	3	7	75	
Alcott	13	11	11	15	18	4	14	86	
Bryant	7	12	3	4	5	7	3	41	
Jackson	6	13	5	6	8	7	4	49	
Jefferson	9	13	8	3	12	3	7	55	
Liberty	5	7	1	5	5	6	9	38	
Magnolia	10	19	11	12	14	4	12	82	
Monroe	15	30	10	15	3	14	11	98	
Pachappa	13	15	7	14	13	11	7	80	
Palm	8	9	9	9	8	8	4	55	
Victoria	8	15	10	5	5	2	7	52	
White Total	105	162	86	101	103	69	85		711
Minorities in Receiving Schools									
Adams	3	6	8	4	6	7	2	36	
Jackson	5	4	1	2	2	1	2	17	
Receiving Minority Total									53
Total Children									1736

TABLE 2

SAMPLE CHILDREN AND THEIR FAMILIES BY ETHNIC GROUP

Sample Children	f	%
White	712	41
Mexican	622	36
Negro	395	23
Other	7	0
Total	1736	
Sample Families		
Anglo	668	55
Mexican	318	25
Negro	241	20
Other	6	0
Total	1233	

TABLE 3

SCHEMATIC DIAGRAM OF THE LONGITUDINAL RESEARCH DESIGN*
(Grade Location of Seven Groups at Seven Points in Time)

Time Dimension	Grade (Spring, 1966)												
	Lowell & Irving K	Casa Blanca K	1	2	3	4	5	6	7	8	9	10	11	12
Retrospective Data 1965 & Before			'65	'64-'65	'63-'65	'62-'65	'61-'65	'60-'65						
Pre-Desegregation 1966	S_0	S_1	S_2	S_3	S_4	S_5	S_6	S_7						
Post-Desegregation 1967		S_0	S_1	S_2	S_3	S_4	S_5	S_6	S_7					
1968	S_0	S_1	S_2	S_3	S_4	S_5	S_6	S_7						
1969		S_0	S_1	S_2	S_3	S_4	S_5	S_6	S_7					
1970			S_0	S_1	S_2	S_3	S_4	S_5	S_6	S_7				
1971				S_0	S_1	S_2	S_3	S_4	S_5	S_6	S_7			
1972					S_0	S_1	S_2	S_3	S_4	S_5	S_6	S_7		

* S_7=Segregated 7 years, S_6=Segregated 6 years, S_5=Segregated 5 years, S_4=Segregated 4 years, S_3=Segregated 3 years, S_2=Segregated 2 years, S_1=Segregated 1 year, S_0=Segregated 0 years. School policy has already desegregated the Lowell and Irving kindergarten children. Consequently they provide the study with a group always desegregated. The Casa Blanca kindergarten has not been desegregated and this provides a group desegregated one year.

with other grade groups as they reach sixth grade level. Thus, the proposed research design has several strengths. The before and after design means that each age group can be compared with its own past performance. Thus, changes in a single child can be assessed by measures before and then again after desegregation. Secondly, by comparing groups who have experienced different amounts of segregation and desegregation in their school experience as they reach equivalent grade levels, it will be possible to isolate the extent to which length of exposure to desegregation has an impact on performance. Thirdly, it will be possible to identify critical ages at which desegregation may have a greater or lesser influence on the child's behavior.

On first inspection, the design appears to suffer from the weakness of any type of "before and after" experiment that lacks a control group. The absence of a control group makes it more difficult but not impossible to isolate the extent to which changes in the children's behavior over time is a result of events extraneous to the school system and desegregation. Since our entire society is in the midst of rapid change in inter-racial policy and attitudes, these societal changes will undoubtedly produce changes in each child's behavior quite apart from those specifically produced by the school. Nevertheless, by selecting children who have experienced similar amounts of desegregation but at different historic periods, it may be possible to estimate the amount of change resulting from the desegregation experience and the amount attributable to changes in the larger society.

In addition to data which will be collected in interviews with the child, his parents, and his teachers, another important source of data may permit a more direct evaluation of the effects of history per se. School records constitute a data source for investigating the child's prior performance on achievement tests, his prior grades in school, and his prior behavior as reported by his former teachers Furthermore, the average performance of minority and majority children at every grade level can also be assessed from school records. It is important to note that, in addition to extending data on achievement backward over time, these records do the same for emotional adjustment. A variety of permanent record entries such as teacher evaluations, absences, tardiness, etc. can be converted to adjustment indices. Thus, the time dimension for the study extends both backwards and forwards from 1966. If, as we suspect, attitudes and emotional adjustment mediate scholastic achievement, this retrospective nature of the data provides a foothold for estimating the extent to which general socio-cultural events extrinsic to Riverside itself contribute to any observed improvements in academic performance. The slope of time series measures after the implementation of desegregation can be evaluated against the slope observed in the preceding years. This comparison extricates the effects of both the general socio-cultural climate of the time and the effects of repeated post-measurements on the same children. Toward this aim, we have persuaded the school system to retain the standard achievement measures that have been in use prior to the onset of the study. Even though the scheduled expansion of the school achievement testing program will provide a more detailed set of measurements, standard instruments administered during the preceding ten years will be retained during the next ten.

Another tool for more directly evaluating the effect of contemporary socio-cultural events on attitudes is the use of the "non-comparable control group." There are several such groups available. One is the San Bernardino school system, which, like Riverside, also has de facto segregation. Unlike Riverside, however, San Bernardino appears headed toward compensatory educational programs rather than

desegregation. Two other school districts adjoining Riverside on the west side of town are Alvord and Rubidoux. They appear even more preferable in that neither has been confronted with any minority agitation regarding de facto segregation. An additional alternative consists of those white children in the Riverside system who have not been included in the study. A periodic attitude measure on separate samples comparable to our basic sample in sex and grade will substantially add to our efforts to directly assess general societal changes in inter-racial attitude. Furthermore, such measurements administered once to each group will be free from effects due to the repeated testing scheduled for our basic sample. Furthermore, measurements on samples from other communities will not contain bias arising from any sensitizing impact of the study itself on the Riverside community. Final decision on the choice among these alternative additional groups has not been made. One of these other school districts, however, has already contacted the project and expressed interest in becoming involved in the study.

A second unavoidable problem in the design of all longitudinal studies, is the problem of attrition. Twenty-five per cent of the residents of Southern California change residence every year. Such geographic mobility will rapidly deplete the original sample of any longitudinal study projected to extend over a long time span. On the basis of the past experience of the school district, it is estimated that only 60% of the kindergarten children in the original sample will still be available for study by the time they reach 12th grade. Mexican-American families are notably less mobile than either white or Negro families, but this population has a higher school drop-out rate which will produce significant losses from that portion of the sample.

Two methods will be used to estimate the amount of bias introduced into the study by losses from attrition. A vast amount of data on all children selected for study will result from the initial testing and interviewing and from previous school records. This will allow assessment of the characteristics of children lost to the study because of mobility. The extent of probable bias introduced into findings because these children were not available for further testing can then be estimated. Secondly, an attempt will be made to follow up a selected sub-sample of the missing children and in this fashion determine the reasons for losses--geographic mobility, school drop-out, death, illness, and so forth. It was because of this anticipated attrition that it was decided to select a large initial sample of children which would, hopefully, provide sufficient numbers of children for study through 1972 and perhaps beyond.

4. Instrumentation and Data Collection

Premeasures

Data for the "before" phase of the study of the individual child is now being secured from four sources: two hour-long interview and testing sessions with each child; sociometric ratings from the pre-desegregation classroom; behavioral ratings by the pre-desegregation teacher; and an interview with each of the child's parents. Though this proposal requests no support for the development of these measures or for their initial administration, it is important to describe them in detail since they constitute the basic premeasures of the study. Furthermore, apart from school-administered measures of academic achievement, these same instruments and procedures will comprise the subsequent dependent measures. Therefore each of the five operations will separately be described in some detail.

Interview and Testing Session with The Child.[1] The schools agreed to release each child in the sample for two fifty-minute periods of interviewing and testing during the spring semester, 1966. Upper division undergraduate and graduate students from the University of California, Riverside, who had been recommended as especially capable by their teachers and who underwent special training and practice in preparation for the sessions conducted the interviews. Spanish speaking interviewers have been employed for work in the Casa Blanca district.

In schools with a large number of children involved in the study, the interviewers tested children in trailers leased by the project and parked on the school yard. In schools with fewer children, interviewing was conducted in rooms made available by the principal.

In this section the individual variables measured will be listed. The specific measures for each will be indicated by reference to the relevant items in the appended interview schedules or by reference to published tests.

Children's first interview (see Appendix A):

1. School attitude (questions 1 through 5): These items secure a rating of positive and negative attitudes toward school and extent of acquaintance with school personnel. The interviewer obtained this information while walking to the testing center.
2. Tolerance for delayed gratification (question 6).
3. Interests and aspirations (questions 7 through 20): These items tap educational and occupational aspirations of the child and the child's perception of the parents' aspirations for him.
4. School involvement (questions 21 through 27): These measures pursue the child's self-perceived role in the school and classroom situation. In addition, they tap differences between perceived and desired role.
5. Level of aspiration (questions 28 through 37): These items measure level of aspiration using standard ring toss procedures. Two measures will be derived: how difficult the child makes the task and how realistic is his performance expectation.
6. Ethnic attitudes (questions 38 through 50): Using a rank ordering of six pictures of ethnically different children, these items measure ethnic attitudes and ethnic preference. Dimensions used for ranking were selected from Osgood's work on the semantic differential. This measure will provide data on the development of stereotypes and on the respondent's own racial identification.
7. Supplemental CAT (questions 51 through 56): Projective measurement of the child's response to pictures from Supplement to the Children's Apperception Test were taped so that they may be used in a variety of different ways. Besides story content and dialect, speech disruption will also be coded. This provides a good anxiety measure (Mahl, 1956). In addition to providing a general measure of adjustment, content can be scored for achievement motivation, and other specific motives such as fear of failure, and affiliation, etc.
8. Man in frame test (questions 57 through 68): This is an adaptation of a technique devised to measure degree of self-reliance (Witkin, Lewis, Machover, Meissner, & Wapner, 1954). It consists of a standard "rod and frame" task in which a "man" is substituted for the rod (see schedule for a description of the apparatus).
9. Behavior ratings (questions 69 through 89): Interviewers record their impressions.
10. Draw a man test: The child does a standard draw-a-man task which was introduced as "busy work" to allow time for the interviewer to make the behavior ratings. These pictures will be scored for IQ and other variables as they appear relevant (Machover, 1951).

[1] See Appendix H for procedures used in securing the informed consent of parents.

Children's second interview (see Appendix B):

1. Sensitivity to social approval or reinforcement (items 8a-10): These consist of a second set of Children's Apperception Test cards on which the interviewer differentially provides reinforcement for story-telling. The major dependent measure is the length of story after reinforcement. The story to the first card or the average story length to the CAT cards in the previous schedule provide baselines for evaluating the reinforcement effects. In addition, however, these protocols can also be scored for emotional adjustment and specific social motives.

2. Self-image (question 11): This item is concerned with how the child sees himself.

3. Tolerance for conflict or dissonance (question 12 on page 15): This measure examines the extent to which a non-preferred toy receives an inflated rating after it is given to a child. Length of decision time is also recorded.

4. Raven progressive matrices (question 13): Though access to all of the school records for both intelligence and achievement test scores is assured, it seemed wise to administer a few standard measures of intelligence to all age-grade levels. The Raven test has been considered a more "culture fair" instrument than those ordinarily administered though Jensen (1959) casts come doubt on the issue

5. Direct personality measures: Likert items include direct measures of school anxiety and general anxiety (Sarason, Davidson, Lighthall, Waite & Ruebush, 1960), self attitudes, attitudes toward others, need for school achievement.

6. Peabody picture vocabulary (pages 6 and 7 of schedule): This provides another measure of intelligence which correlates highly with Stanford Binet IQ scores.

7. Vulnerability to peer pressures (pages 10 and 11): This is an adaptation of the typical laboratory conformity task in which the subject judges the size of objects after exposure to the judgment of others. In this case the child is confronted with a simulated group consensus which is false on some items. This task will measure the child's susceptibility to changing his response when he has knowledge of the group judgment.

8. Indirect school and general adjustment test (page 14): This is a projective test in which the child is asked to indicate how happy or sad various pictured situations make him feel (Bower and Lambert, 1962).

9. Behavior ratings (pages 16, 17, and 18): Interviewers record their impressions. These items are the same as those on the first interview and increase the reliability of the behavior ratings.

10. Draw yourself task: The child is instructed to draw a picture of himself while the interviewer is completing the ratings.

Interviews for children in the fourth through sixth grade were identical with those for children in kindergarten through third with the exceptions of two sets of questions. The dimension of "Achievement Motivation" was added to the dimensions tested in the series of attitudinal questions asked each child The "Thinking About Yourself" task from the Bower-Lambert study was used for the self-rating (see Appendix C for the schedule for older children).

A staff of approximately 70 persons fulfilled this operation in all schools by the close of the 1966 school year.

Sociometric Measures and Peer Ratings (see Appendix C). The changing role of the child in the classroom as perceived by his peers is one of the most critical variables in the study of the impact of desegregation on the child. Therefore, pre-desegregation data on each sample child was secured by obtaining sociometric

information from each classroom in which one or more sample children were located. A special group of 12 women were recruited to visit all Kindergarten through third grade rooms and get sociometric information by individual questioning of all children in each classroom.

Standard sociometric questions gave the children three choices of persons they would like most to sit next to, to have on their team, and to have as a work partner. In addition, peer ratings were secured using the questions developed by Bower and Lambert. The pictures used by Bower and Lambert were redrawn to present more contemporary looking scenes while retaining their content. These questions will be used, as designed, for a score of emotional adjustment but will also be studied to determine the specific role types for which sample children are selected by their peers.

In classes for children grades four through six, the Class Play series developed by Bower and Lambert were used together with the same sociometric questions used with younger children. These were completed by the children themselves during the regular class hours and administered by the teachers to the children as a group. (See appendix D for the forms).

Teacher Ratings of Student's Behavior (see Appendix E). Each teacher was asked to complete five different types of ratings of each sample child in her class. In special training sessions, each teacher received a kit containing a list of the names of sample children in her class, instructions for teacher behavior rating, and a set of rating scales for each sample child. These scales have been distributed to all teachers and will be returned by July 1, 1966. During the summer, student helpers will score the scales and prepare them for key punching. Arrangements were made to reimburse teachers for time spent in completing the ratings--a total expenditure of approximately $5000. Following is a brief explanation of the measures:

1. Teacher behavior ratings: These were adopted from the Bower and Lambert study for use with self-ratings and peer ratings to give an index of emotional adjustment.
2. Sten rating scales: These are the same scales used by interviewers. They should give some indication of comparability and reliability of ratings.
3. Classroom behavior checklist: These scales were developed by Earl Schaefer of the National Institute of Mental Health. National data and data on comparison groups augment their usefulness.
4. Ratings of involvement in school situations: These questions were developed by the investigators to measure child's behavior in typical school situations.
5. School anxiety scale: This instrument was adapted from the work of Sarason and secures a rating on behavioral manifestations of anxiety as perceived by the teacher.

Interview with parents. (See Appendix F for a sample schedule of items). The final major operation in the pre-desegregation phase of the study of the child and his family is the parent interview. Interview schedules are now being developed. The interview will obtain information on the basic household composition, the assimilation of middle class values and aspirations particularly in respect to educational and occupational goals, structural integration in the community as indicated by a normal profile of roles within the social structure, alienation, attitudes concerning the effect of desegregation on own children and other children, attitudes toward minority members, authority pattern within the family structure, semantic differential ratings of own child, and items from selected subscales of the Parental

Attitudes Research Instrument. Twenty white, twelve Negro, and eight Spanish speaking interviewers have been employed to begin work on June 20th. Advance letters to parents and newspaper publicity will introduce this phase of the field work. Hopefully, most of the interviewing will be completed by the second week in August. The present time schedule calls for all information gathered on the child and his family to be punched on cards and ready for analysis by the end of September, 1966.

Teacher self ratings. (See Appendix G for a proposed schedule of items). These measures on the teachers are proposed for the early fall of 1966. They will provide the following information.

1. Demographic variables, educational achievement, background (pages 1-3).
2. Attitudes toward ethnic groups (questions 34-44): These items ask the teacher to describe the present ethnic compositions of class versus the ideal.
3. Semantic differential ratings (pages 5-7): For each sex of each ethnic group, a typical child is rated on four dimensions: power, activity, favorability, and intelligence (Osgood, et al., 1957).
4. Self rating (page 8): Teachers make self ratings on the same four dimensions as above.
5. Goals (page 8 bottom): Ordering of teacher's educational goals.
6. Direct attitude and personality measures (pages 9-18): These Likert type questions include items from Rokeach's (1960) Dogmastism Scale and Srole's (1962) Anomie Scale, items from selected sub-scales of the Parental Attitudes Research Instrument (PARI) developed by NIMH, and items on attitudes toward school desegregation and poor people.

Achievement. Premeasures on achievement variables, shown in Table 4 are being taken this spring in the primary grades and this fall in the intermediate grades. In addition, achievement data collected in previous years are also available as premeasures.

Postmeasures

The postmeasures consist of the five basic sets of measures described in the preceding pages plus the standard measures of academic achievement administered by the school.

The measures of academic achievement will be administered yearly according to the schedule presented in Table 4. Certain restrictions in tests and testing dates have been recognized in order to meet the requirements of state mandated testing programs. The testing program is designed to give consistent and sequential data on children's reading and arithmetic skills through the primary grades. Repeated administration of the Lorge-Thorndike Intelligence Test will allow for adjustment for bias due to different ability levels. Repeating the testing pattern at the sixth grade will permit evaluation of the same skills after more than two years have elapsed, and will also meet a state requirement. Continuing the regular use of SCAT (School and College Ability Tests) and STEP (Sequential Tests of Educational Progress) at grades four, five, and six will allow for the evaluation of different types of school aptitude and achievement and permit the comparison of such achievement with that of previous years. The city-wide testing program for secondary grades provides for the repetition of these tests at grades eight through twelve. Such data will allow longitudinal study of achievement patterns (see Table 5).

TABLE 4

TESTING PROGRAM - ELEMENTARY
1966-67

Grade	Fall	Spring
Kindergarten		Metropolitan Readiness, Form A
First		Stanford Reading, Pri. I, Form W Lorge-Thorndike, Pri. Level 1, Form A
Second		Stanford Reading Stanford Arithmetic Pri. II, Form W Lorge-Thorndike, Pri. Level 2, Form A
Third		Stanford Reading Stanford Arithmetic Pri. II, Form X Lorge-Thorndike, Pri. Level 2, Form B
Fourth	SCAT, 5B STEP, 4B Listening Reading Mathematics	
Fifth	SCAT (make-ups) 5A STEP, 4A Listening Mathematics Reading Science Social Studies Writing	
Sixth	Stanford Reading Stanford Arithmetic Inter. II, Form W Lorge-Thorndike, Level D, Form 1	SCAT, 4A STEP, 3B Listening Reading Mathematics LANGUAGE PERCEPTION TESTS

TABLE 5

TESTING PROGRAM - JUNIOR HIGH

Grade	Fall	Spring
Eighth	SCAT, 4A STEP, 3A Listening Mathematics Reading Science Social Studies Writing	
Ninth	Differential Aptitude Test	

TESTING PROGRAM - HIGH SCHOOL

Tenth	Test of Academic Progress Reading Lorge-Thorndike Intelligence Tests Verbal and Non-verbal Sections
Twelfth	SCAT, 2A STEP, 2A

The other post-measures will be administered every other year. In off-years, when the basic sample is not being premeasured, these same measures will be administered to selected "non-comparable" control groups (see Campbell, 1961a). As previously indicated, judicious selection of these additional comparison groups will provide a basis for evaluating any sensitizing effects produced by repeated measurements on the basic sample, sensitization effects on the entire Riverside community, and those attitudinal and social class changes occurring over the duration of the study attributable to general socio-cultural events at this time in history. Yet, though extremely valuable, such additional measures only provide gross baselines for assessing the changes occurring in the basic sample. The basic characteristics of this natural field study and the mechanics of staffing and organizing measurements impose these compromises on the design. As indicated by Campbell (1961a), Underwood (1957), and others, no matter how carefully matched, a design using matched controls never attains the precision achieved through true random assignment of a sample to experimental conditions. Furthermore, the administration of measures to the basic sample and the selected controls at different points in time, further complicates interpretation. Nevertheless, the proposed scheduling of measures is adjudged sufficiently adequate and comprehensive to assess the effects that are of interest.

We also propose to keep in close touch with and evaluate the sorts of grouping procedures the teacher uses for the various academic content areas since segregation within the classroom may be much more invidious and devastating than segregation within separate schools. We also plan to take spot checks of the school playgrounds during the free play periods. (Two of these periods typically occur during the normal school day). Such auxilliary substudies of aggregation tendencies might constitute an important behavioral measure of attitudes (Zimbardo, 1966).

In view of the extensive information that will be available on the families participating in the study, a variety of valuable substudies are planned for portions of the sample. Present plans include more extensive, indirect measures of social attitudes on selected subsamples. Determining the relation between verbal and behavioral measures of attitude is important. Other substudies on family interaction patterns are planned. These would include analysis of the type of behavioral control techniques employed by parents of the different subgroups in the sample: Mexican-American, Negro, and white. After some of the initial post-measures are analyzed, interaction patterns of families with high and low achieving minority children can be compared using techniques for studying social interaction such as those developed by Rosen and D'Andrade (1959) and Butler and Miller (1965). The power structure within the family and the preference for reward versus punishment as modes of social control may importantly predict different effects of the desegregation experience on the individual child. We also plan to undertake laboratory studies which would enable us to identify and induce positive and negative self-attitudes. Irwin Katz has agreed to consult with us on the possibilities for experimenting with minority children of different age levels in competitive and cooperative tasks. This would enable us to pinpoint more exactly the "critical period" for the development of self-other attitudes. This would ocnstitute a social developmental cross-ethnic experimental program.

C. USE TO BE MADE OF FINDINGS

These data will be important in several ways. First, the study will provide extensive information on what factors contribute to or detract from a child's emotional stability and achievement following desegregation. The information gained from the study will provide valuable guidelines to other school districts who are attempting to desegregate. It can throw light on both the anticipated and unanticipated consequences of this type of social action. Furthermore, unlike many studies of desegregation which examine only Negro populations, the presence of the large Mexican-American contingent in the study makes it possible to investigate the impact of desegregation on a minority group of critical importance to the Southwest. The present lack of knowledge about this group buttresses the importance of the study. In addition, the inclusion of this second and different minority group importantly adds to the generality or external validity of the findings. Since the sample includes white students as well, it will provide information on the effects on all parties experiencing the desegregation. Finally, knowledge of the factors that produce emotional maladjustment and poor school performance will help the school district in the future to identify the possible causes of problems as they arise. If a particular child is having a problem the schools may be able to run down some list of likely sources of difficulties in the classroom or home and may in turn be able to take ameliorative action. If, for example, we find that particular types of classroom sociometric configurations lead to difficulties for pupils occupying certain positions, we may be able to solve a particular problem by moving a child out of one classroom and into another. There is a myriad of possible difficulties. By bringing their source into focus we may be able to thus provide guidelines for the school not only for solving problems that may be a direct result of desegregation but for solving problems that arise in <u>any</u> classroom.

A second important aspect of the research is that these data will provide a wealth of fundamental information (1) on basic measures of child personality, development, and performance; (2) their interrelation; (3) the relation of parents' behaviors and attitudes to child behavior; (4) the relation of teachers' behavior and attitudes to child behavior; and (5) the effect of desegregation on parental attitudes and behavior.

These findings will be disseminated as articles appearing in scientific journals which publish fundamental research. Conceivably, they may also appear as a single monograph as well. It seems essential in terms of the needs of the Riverside School Board and community, and perhaps the nation as well, to prepare some more popular or nontechnical form of report. This commitment to prepare some generally available document for lay consumption will not detract, however, from our more basic scientific and scholarly interests in the data.

The eventual additional uses and extension of the data bear consideration. As previously mentioned elsewhere in the proposal, given the wealth of data, its high quality, its richness, and the large sample of respondents, it will be fruitful to extend the study longitudinally so that the more remote long term effects of the desegregation experience can be evaluated. Its eventual impact on adolescence and adulthood in terms of personal values and attitudes, occupational aspirations and achievements, and community participation versus alienation and isolation, are perhaps of even greater long-run concern than the more immediate effects.

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IV. PERSONNEL AND FACILITIES

The facilities available are those to be expected on a University campus. There is office space for the personnel working on the study as well as some additional space for clerks, coders, and typists. There are two new buildings going up on the campus now, a psychology building, and a classroom and office building. Space in these will be available toward the end of the school year. During the early part of the year, however, space will be at a premium. Therefore, we will rent an office trailer for part of next year (There is an item for this in the budget).

We will have the use of our local computing center which has an IBM 7040 with a lot of online and offline facilities. In the event that some of the analysis will require more data storage than is available in a 7040, we will have the facilities at the Western Data Processing Center at UCLA available. Our own local computing center has a direct telephone tie-in to the center at UCLA.

Jane Mercer has had extensive field experience interviewing a large number of parents while working on a study of mental retardates for the Pacific State Hospital and Norman Miller was the research director of Donald Campbell's study of projection which involved a considerable amount of field work. Some years back, Harold Gerard conducted a field study of two Air Force staffs as well as a detailed interview study concerned with the staff experiences of a selected number of Air Force staff officers. Harry Singer has had extensive experience in the construction and administration of achievement tests and has completed a large scale systematic study of achievement in the elementary schools.

Both Norman Miller and Harold Gerard had a great deal of experience conducting laboratory experiments on a variety of social psychological problems.

There are good graduate students in psychology who are interested in working on various phases of the study and it is very likely that a number of dissertations will be written on problems coming out of the research.

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BIOGRAPHY

Professor, b. 1923. B. A., 1947. Brooklyn College; Ph.D., 1952, University of Michigan.

EMPLOYMENT: Research Assistant, Research Associate, 1949-52, University of Michigan; Research Assistant Professor, 1952-54, New York University; Assistant Professor, 1954-55, University of Buffalo; Fulbright Scholar, 1955-56, University of Nijmegen, The Netherlands; Member of Technical Staff, 1956-62, Bell Telephone Laboratories; Professor, 1962-present, University of California, Riverside: U. S. Public Health Service Special Fellow, 1963-64; Fellow Center for Advanced Study in the Behavioral Sciences, 1963-64; Consultant, USPHS 1965; Consultant, Pacific State Hospital, 1965.

MAJOR PUBLICATIONS

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Compliance, expectation of reward, and opinion change. Submitted for publication.

Choice difficulty and the decision sequence. Submitted for publication.

Group Dynamics. Annual Review, in press.

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BIOGRAPHY

Associate Professor, b. 1933. B.A., 1956, Antioch College; M.S., 1957, Northwestern University; Ph.D., 1959, Northwestern University.

EMPLOYMENT: Teaching Assistant, 1955-57, Northwestern University; Research Assistant, 1957-59, Northwestern University; Instructor, 1958, Northwestern University; Assistant Professor, 1959-65, Yale University; Associate Professor, 1965-present, University of California at Riverside.

MAJOR PUBLICATIONS

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VITA

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BIOGRAPHY

Associate Professor, b. 1925. B. A., 1949, Western Reserve University; M. A., 1952, Western Reserve University; Ph. D., 1960, University of California.

EMPLOYMENT: Teaching Fellow, 1951-52, Western Reserve University; Teacher, 1953-55, Oakland Public Schools; Teacher, 1955-60, University of California, Berkeley, Extension; Certified School Psychologist, Board of Medical Examiners, State of California, 1955; Lecturer in Education, 1960-61, University of California, Riverside; Assistant Professor of Education and Assistant Director of the Study Skills Program, 1961-62, University of Arizona; Assistant Professor of Education, 1962, University of California, Riverside; Field Reader, Small Contract Program, Cooperative Research, 1963, Office of Education, Department of Health, Education, and Welfare; Initiated and Consultant to Riverside County Reading Teachers Association, 1963; Director of Elementaty Education, 1964; Associate Professor of Education, 1966, University of California, Riverside.

MAJOR PUBLICATIONS

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STATEMENT ON "CLINICAL RESEARCH AND INVESTIGATION INVOLVING HUMAN BEINGS"

The Chancellor's Office of the University of California, Riverside, has appointed a campus-wide committee to consider each proposed new, renewal, or continuation, or supplemental research or research training grant involving human beings and to provide prior review of the judgment of the principal investigator or program director. This will assure an independent determination:
(1) of the rights and welfare of the individual or individuals involved,
(2) of the appropriateness of the methods used to assure informed consent, and
(3) of the risks and potential medical benefits of the investigation. The Committee will consist of four people. Two of these are senior faculty members from the Departments of Psychology and Physical Education; the others, the Director, Student Health Services, and the Campus Environmental Health and Safety Officer. (Statement dated April 26, 1966 to The Surgeon General, PHS).

Harold B Gerard

Principal Investigator
Harold B. Gerard, Professor of Psychology

ROBERT R. HEWITT

Institutional Official
Robert R. Hewitt, Associate Dean for Research